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INDUSTRIALIZATION AND ECONOMIC PROGRESS IN THE SOUTHEAST*

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"You see it takes all the running you can do to keep in the same place. If you want to get someplace else, you must run at least twice as fast as that."

—*Through the Looking Glass*

I. HISTORICAL PERSPECTIVE

The growth of industry in the Southeast is not a recent phenomenon. Manufacturing has expanded steadily in the region over at least the last fifty years. Since the turn of the century, manufacturing employment in the Southeast¹ has increased three times as fast as total population—250 per cent as compared with 79 per cent.²

Over every decade since 1899—including the depression 1930's—the Southeast increased its number of manufacturing production workers. The greatest *per cent* increase over the last half century occurred in the early 1899–1909 decade when the cotton textile industry had its largest growth in the region.³ (See Table 1.) After this early boom period, the rate of increase declined progressively until the World War II decade, when the Southeast experienced a renewed high rate of expansion in manufacturing employment. Over the recent 1939–49 decade, the Southeast experienced its greatest *absolute* increase in manufacturing production workers.

The regional totals, of course, obscure great differences among the states of the Southeast in the timing and extent of industrial expansion. Over the entire half-century, the increase in manufacturing production workers varied from a high of more than 400 per cent for North Carolina to a low of slightly more than 100 per cent for Arkansas. Over the recent 1939–1952 period, the expansion in

* Paper presented to the Southern Economic Association, Atlanta, Georgia, November 13, 1953.

¹ The Southeast as here used includes the following 11 states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia.

² In the Nation as a whole from 1899 to 1951 manufacturing production workers increased by 178 per cent and population by 102 per cent.

³ "During the twenty years ending with 1914, the number of cotton spindles in the United States about doubled, . . . but the growth was mostly in the South."—Victor S. Clark, *History of Manufactures in the United States, 1893–1928*, (New York: McGraw-Hill Book Co., 1929), Vol. III, p. 172.



Albert S. Kistner

SIXTH PRESIDENT OF THE SOUTHERN ECONOMIC ASSOCIATION, 1934-1935

TABLE 1
Expansion of Manufacturing Employment in the Southeast: 1899-1952

PERIOD	INCREASE IN PRODUCTION WORKERS	PER CENT INCREASE
1899-1909	311,187	58
1909-1919	180,616	21
1919-1929	146,147	14
1929-1939	24,037	2
1939-1949	461,037	38
1949-1952	210,382	13

Source: *Handbook of Regional Statistics*, GPO, Washington, 1950; *Annual Survey of Manufactures, 1949-50, 1951 and 1952*.

factory employment ranged from a high of 91 per cent for Kentucky and Arkansas to a low of 39 per cent for North Carolina.

Certain states have expanded industrially at a rapid and rather steady rate since 1899, such as North Carolina, Tennessee, South Carolina and Georgia. (See Chart I, Part 1.) At the other extreme, certain states such as Arkansas, Kentucky, Florida, and Mississippi have had relatively small long-run increases in factory employment and extended periods of lag or stagnation. (See Chart I, Part 3.) In Kentucky, factory employment in 1939 was only slightly higher than in 1904—35 years before. In Arkansas and Mississippi, the number of production workers in 1939 was actually below the 1909 level of 30 years before. Florida never exceeded its 1919 level of factory employment until 1950—31 years later. A middle group of states, Alabama, Virginia and Louisiana, have had substantial long-run growth despite extended sluggish periods. (See Chart I, Part 2.) In Alabama and Virginia, there was little progress in factory employment over the two decades from 1919 to 1939. And in Louisiana, factory employment actually declined over the same twenty-year period.

The variations among the sub-areas of the Southeast deserve attention as an important qualification and an extension of the general treatment of industrialization in the Southeast that follows. Within the limits of this paper, however, it has not been possible to treat this subject in detail. The wide differences among the individual states in the extent and timing of industrial expansion reflect many factors including differences in resources and in industrial structure within the region.

Relative to the Nation, the industrialization of the Southeast has followed a rather consistent pattern. Over the period from 1899 to 1952 the Southeast increased its share from 12 to 15 per cent of the Nation's production workers. However, as shown in Chart II, in almost every period of rapid national expansion since 1909, factory employment increased more slowly in the Southeast than in the Nation. This lag in the Southeast was true for the World War I period of 1914-1919, for the prosperity boom of 1927-1929, for the recovery period of 1933-1939, for the World War II period of 1939-1947 and for the 1950-1952 period of the Korean conflict.

CHART I. MANUFACTURING PRODUCTION WORKERS IN SOUTHEASTERN STATES: 1899-1952

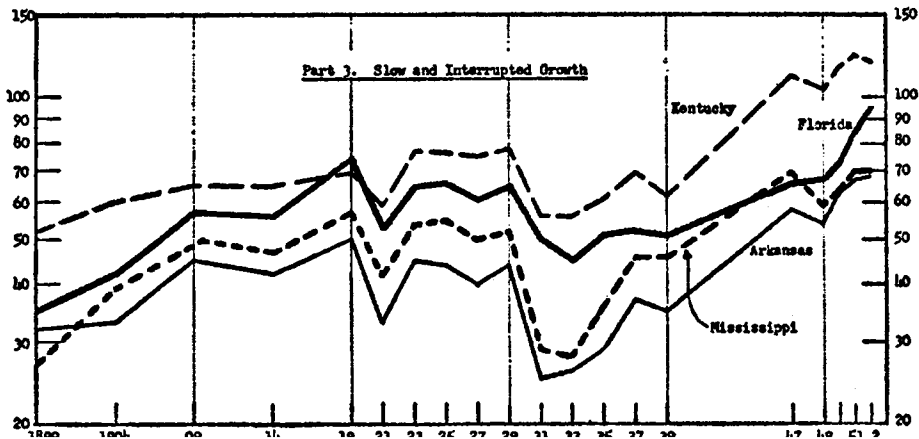
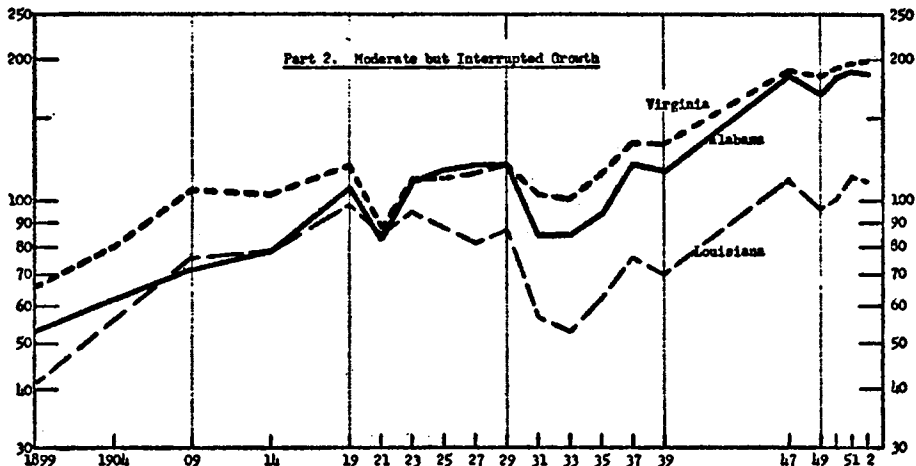
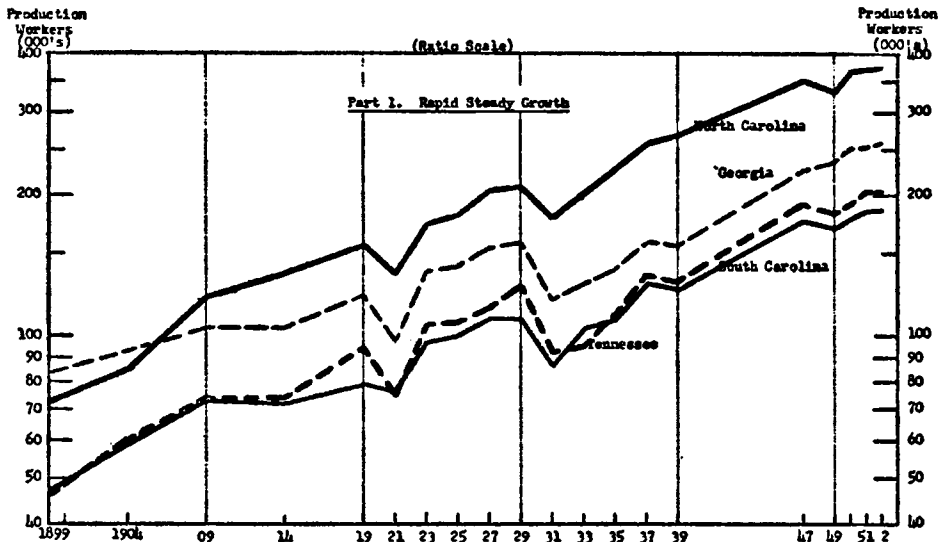
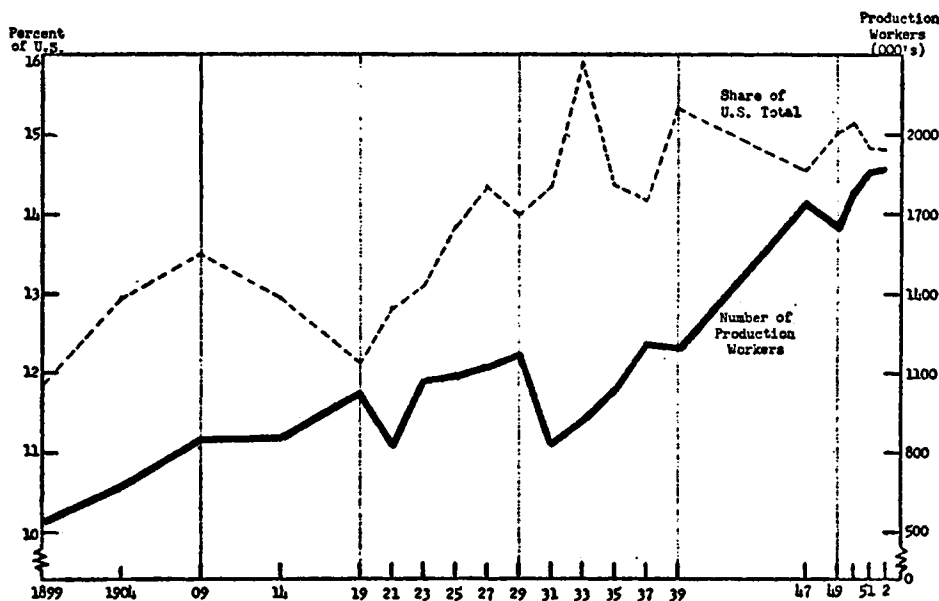


CHART II. PRODUCTION WORKERS IN MANUFACTURING: 1899-1952
Eleven Southeastern States



Sources: 1899-1947, Census of Manufactures, 1947; 1949-51, Annual Survey of Manufactures, 1949-50, 1951 and 1952.

On the other hand, during recession or depression periods manufacturing employment declined less rapidly in the Southeast than in the Nation. Thus, the Southeast increased its *share* of the Nation's factory employment in the post World War I depression of 1919-21, in the Great Depression of 1929-33, in the 1937-39 recession, and in the 1947-49 readjustment period following World War II. In fact, in the low depression year of 1933 the Southeast had a larger *share* of the Nation's total factory employment than ever before or since.

This inverse pattern of the Southeast relative to the Nation reflects the predominance of non-durable types of manufacturing in the Southeast. The consumer goods industries characteristically expand more slowly than producer goods in periods of prosperity and defense expansion and hold up better in depression or peacetime years.

II. RECENT INDUSTRIALIZATION TRENDS

Employment and Income

Recent industrialization trends in the Southeast have received considerable popular and professional attention because of the magnitude of the recent expansion. Although manufacturing has expanded rapidly in the past, particularly during the first decade of this century, the recent industrial gains constitute a rebirth of industrialization after two decades of only modest industrial growth. Over the recent 13-year period from 1939-1952 the Southeast had a larger increase in the number of production workers than over the previous 40-year period from 1899-1939.

TABLE 2
Manufacturing Expansion in the Southeast and U.S.: 1929-52

	1929-52		1939-52	
	SE	US	SE	US
	Per cent Increase			
Employment in Manufacturing.....	74	54	54	61
Income from Manufacturing.....	398	282	410	372

Source: Bureau of Labor Statistics employment estimates and estimates based on Census reports and BLS estimates. Income data based on estimates by U.S. Department of Commerce.

Contrary to much popular opinion, however, the growth of factory employment in the Southeast over the World War II period was at a somewhat lower rate than in the Nation as a whole. (See Table 2.) This is consistent, of course, with the historical pattern of the region; i.e., a slower rate of increase than in the Nation over periods of very rapid growth. The slower rate of increase since 1939 also reflects the fact that the Nation had not fully recovered from the Big Depression by 1939 when manufacturing employment in the Nation was still 4 per cent below the 1929 level. In the Southeast, however, 1939 factory employment was already 13 per cent above the 1929 prosperity peak, due principally to industrial expansion in four states: North Carolina, South Carolina, Tennessee and Virginia.

From a slightly longer run point of view—since the prosperity peak of 1929, total manufacturing employment has increased more rapidly in the Southeast than in the Nation. (See Table 2.) From 1929 to 1952, total factory jobs in the Southeast increased by 74 per cent as compared with only 54 per cent for the United States.

Manufacturing income has also expanded more rapidly in the Southeast than in the Nation over the last two decades. (See Table 2.) From 1929 to 1952 manufacturing income in the Southeast increased by 398 per cent as compared with only 282 per cent in the Nation. The Southeast's more rapid income gain, particularly during the 1939-52 period, reflects a number of factors other than a greater relative gain in number of jobs. The income gains relative to the Nation have also been a result of narrowing regional differentials and of greater percentage increases in wages in the low wage industries predominant in the Southeast.⁴

Types of Industrial Expansion: 1939-47

The industry composition of recent industrialization trends in the Southeast can best be summarized within the broader framework of the national expansion. Over the period 1939-47, the most recent period for which detailed industry data are available, there was a gain of slightly more than 4 million production workers in the Nation and about 550,000 in the Southeast. The per cent increase from 1939-47 was therefore 53 per cent in the Nation and 46 per cent in the Southeast.

⁴ See Charles A. R. Wardwell, *Regional Trends in the United States Economy* (Washington: U. S. Department of Commerce, 1951), p. 32.

TABLE 3
Increase in Manufacturing Production Workers: 1939-47

MAJOR INDUSTRY GROUP	PER CENT DISTRIBUTION OF INCREASE		PER CENT INCREASE 1939-47	
	US	SE	US	SE
All Manufacturing Industries*.....	100.0	100.0	53	46
1. Machinery (except electrical).....	17.2	4.0	132	189
2. Transportation equipment.....	10.8	5.6	81	139
3. Electrical machinery.....	9.5	1.4	158	271
4. Fabricated metal products.....	9.0	3.8	82	85
5. Primary metal industries.....	8.2	4.4	50	56
6. Food and kindred products.....	7.2	10.2	37	60
7. Apparel and related products.....	5.3	8.4	29	62
8. Chemicals and allied products.....	4.9	8.4	73	72
9. Lumber products (except furniture).....	4.2	15.8	41	48
10. Miscellaneous manufactures.....	3.8	1.0	64	73
11. Stone, clay, and glass products.....	3.4	3.1	52	61
12. Paper and allied products.....	2.9	4.8	44	75
13. Printing and publishing.....	2.8	2.0	35	49
14. Instruments & related products.....	2.4	.6	114	237
15. Rubber products.....	2.3	1.4	78	177
16. Furniture & fixtures.....	2.3	4.2	49	50
17. Textile mill products.....	1.6	13.9	6	16
18. Petroleum and coal products.....	1.5	1.4	57	105
19. Leather & leather products.....	.5	1.4	7	47
20. Tobacco manufactures.....	.4	4.3	18	55

* Increase in production workers between 1939 and 1947 was 4,118,000 in the United States and 550,000 in the Southeast.

Source: *Census of Manufacturers, 1947*.

The share of the increase accounted for by each major industry group and the rates of growth from 1939-47 are shown for both the Southeast and the United States in Table 3.

The industry pattern of expansion in the Southeast was drastically different from that in the Nation over this war period. In the Nation, the leading types of expansion, in order of importance were (1) machinery, except electrical, (2) transportation equipment, (3) electrical machinery, (4) fabricated metals, and (5) primary metals. In the Southeast the most important sources of new factory jobs were (1) lumber and products (excluding furniture), (2) textiles, (3) food and kindred products, (4) chemicals, and (5) apparel. In both the Nation and the Southeast, the five leading major industry groups accounted for more than half of the total number of new production jobs.

The types of industries which added the largest number of workers in the Nation accounted for relatively few new jobs in the Southeast. The bulk of the

growth in the non-electrical machinery, electrical machinery, transportation equipment, primary and fabricated metals industries was concentrated in the Central, Middle East and New England regions.⁵

The expansion of the lumber products industry (excluding furniture) in the Southeast represented one-half of the total national expansion in this industry group. The textile industry, which expanded only 6 per cent in the Nation between 1939 and 1947, expanded by 14 per cent in the Southeast. As a result, the increase in the Southeast was somewhat larger than the 65,000 growth in employment for the Nation as a whole. Such a gain was possible because textile employment contracted in the Middle East and Central regions, although not in the New England area. The textile development marked a further shift of textile employment to the Southeast. The growth of food, chemical and apparel manufacturing in the Southeast represented in each case about one-fifth of the national expansion.

The *rate* of expansion in the Southeast, not to be confused with the *absolute* increases in factory employment, was very rapid for the industry groups that were of major national importance. In fact, as shown in Table 3, the per cent increase from 1939 to 1947 for 19 of the 20 major industry groups was greater in the Southeast than in the Nation. But in most cases the high rate of increase in the Southeast reflects the low level of employment in 1939.

Between 1939 and 1947 the Southeast substantially increased its regional shares—as measured by production worker employment—of the Nation's textile, apparel, food, transportation equipment, lumber, printing and publishing, stone, clay and glass, paper, leather, petroleum products, and tobacco products industries. In the case of textiles and tobacco products industries, the region's gains were at the expense of losses elsewhere.

Types of Industrial Expansion: 1947-52

The lack of a complete Census of Manufactures since 1947 makes it difficult to analyze the industry composition of expansion since that date. However, a fairly accurate national and regional picture for the 1947-52 period is available from the Annual Surveys of Manufactures, based on a sample of all manufacturing establishments, and the employment estimates of the Bureau of Labor Statistics.

In 1952 manufacturing employment in both the Nation and the Southeast was about 10 per cent above the relatively high 1947 level. In the Nation, the leading sources of new factory jobs over the 1947-52 period, in order of importance, were (1) transportation equipment, (2) electrical machinery, (3) machinery, except electrical, (4) primary metals, (5) chemicals and (6) printing and publishing. In the Southeast, the most important types of expansion were (1) apparel, (2) chemicals, (3) food and kindred products, (4) paper, (5) machinery, except electrical and (6) electrical machinery.

In the Nation, the leading sources of new factory jobs since 1947 were very

⁵ For a more complete discussion of the regional distribution of recent industrial expansion see *ibid.*, Chapter 10.

similar to those for the earlier 1939-47 period, except for chemicals replacing fabricated metals. But the industry pattern in the Southeast was again sharply different from that in the Nation.

Furthermore, within the Southeast the industry composition of the 1947-52 expansion differed substantially from that of the earlier 1939-47 period. The two industry groups that accounted over the early period for the largest number of new jobs—the lumber and textile industries—were replaced as leaders by paper and the machinery industries.

In fact, regional employment in the lumber industry group declined substantially after 1947, due to contractions in sawmill and planing mill operations. This regional decline went counter to the national employment increase in the lumber products industry which resulted largely from expansion in millwork plants.

Textile employment in the Southeast fluctuated greatly after 1947 but by 1952 was back at about the 1947 level. In the Nation, however, textile employment declined by almost 10 per cent over the same period.

The Southeast's large growth in apparel employment accounted for the bulk of the Nation's total gain in number of jobs, thus representing an accelerated regional shift of the apparel industry. The region's rapid expansions in chemicals, food and paper—which accounted for from one-third to one-half of the national expansion in these industries—also represented an acceleration of the trend for the earlier war period. The recent increase in electrical and other machinery employment in the Southeast represented continued rapid regional expansion in these industries, but the Southeast's number of new jobs were only a small share of the very large national expansion in these industry groups. The transportation equipment industry was of leading importance nationally over the 1947-52 period mainly because of phenomenal increase in aircraft employment. The Southeast shared slightly in the aircraft expansion but these gains were offset by declines in shipbuilding.

Thus, the recent industrial gains in the Southeast have partly resulted from rapid expansion in durable goods and non-traditional regional industries. Yet it must be recognized that the manufactures of the Southeast remain predominantly nondurable, and the factory workers of the region are still heavily concentrated in the traditional textile, lumber, food and apparel industries. (See Table 4.)

Geographical Pattern

The geographical pattern of industrial expansion is important from many standpoints such as decentralization for national security, as a causal factor underlying urbanization trends, and as a major influence in the widespread shift from full to part-time farming. Yet there has been little analysis to date of the geographical characteristics of recent industrial growth in the Southeast.

The locational characteristics of the industry types which have accounted for most of the recent industrial growth—textiles, apparel, food, basic chemicals, paper and lumber products—suggest that much of the recent expansion was

TABLE 4
Structure of Manufacturing in the Southeast and U.S.: 1947
 (Number of Production Workers)

11 SOUTHEASTERN STATES			UNITED STATES		
Rank	Industry	Per cent	Rank	Industry	Per cent
1	Textiles	31.2*	1	Machinery (excl. elec.)	10.4
2	Lumber	15.3	2	Textiles	9.6
3	Food	8.5	3	Food	9.2
4	Apparel	6.9	4	Primary Metals	8.5
5	Chemicals*	6.4	5	Transportation Equipment	8.3
6	Furniture	3.9	6	Apparel	8.2
7	Tobacco	3.9*	7	Fabricated Metals	6.9
8	Primary Metals	3.8	8	Electrical Machinery	5.4
9	Paper	3.5	9	Lumber	5.0
10	Transportation Equipment	3.0	10	Chemicals*	4.0
11	Fabricated Metals	2.6	11	Printing	3.7
12	Stone, Clay, and Glass	2.6	12	Stone, Clay, and Glass	3.4
13	Machinery (excl. elec.)	1.9	13	Miscellaneous	3.3
14	Printing	1.9	14	Paper	3.2
15	Leather	1.4	15	Leather	2.9
16	Petroleum	.9*	16	Furniture	2.4
17	Miscellaneous	.7	17	Rubber	1.8
18	Rubber	.7*	18	Instruments	1.5
19	Electrical Machinery	.6*	19	Petroleum	1.4
20	Instruments	.3*	20	Tobacco	.9
Total per cent		100.0			100.0
Total Number of Production Workers		1,746,298			11,926,688

* Estimates made for State data withheld by Census to avoid disclosure.

* Includes 10,500 workers at Oak Ridge in chemicals not covered by *Census of Manufactures, 1947*.

Sources: *Census of Manufacturers, 1947*, and special tabulations by the Bureau of the Census.

located outside of metropolitan areas and was rather widely dispersed throughout the region. This conclusion is confirmed by some scattered observations about the South made in a recent study of industrial expansion in the Nation.⁶ Among the 50 most rapidly expanding major industrial areas in the Nation, Atlanta ranked only 26th with a 60 per cent growth from 1939 to 1947; Birmingham, 28th with 56 per cent; and New Orleans, 35th with 49 per cent—a lower rate of expansion than in the Southeast as a whole. The study concludes that the South

⁶ John W. Alexander, "Industrial Expansion in the United States, 1939-47," *Economic Geography*, April 1952, pp. 128-142.

lacks a counterpart of the heavy industrial concentrations such as in the Great Lakes States.

Within individual states of the Southeast, the recent expansion of industry was generally dispersed among many sub-areas. The exception was in Kentucky where half of the increase in production workers was in the Louisville-Jefferson County area. In North Carolina, at the other extreme, no single county accounted for more than 10 per cent of the 1939-47 gain. In fact, although North Carolina is the most heavily industrialized state of the Southeast, in 1950 the State had only one city, Charlotte, with a population of over 100,000. (And as one North Carolinian commented, "They only passed the 100,000 mark by counting in the Republicans too.")

Branch Plants v. Local Entrepreneurship

In the Southeast, as in many other under-developed areas, strong emphasis is often placed on industrialization through firms which are locally owned and controlled. The popular antagonism to "foreign" control has been expressed in terms of "forfeiture of much of the region's power of economic self determination," as a "lack of community influence over community destinies . . . in a region which, as far as its political and social mores are concerned, is strongly individualistic and independent," and as a situation which "operates . . . to deplete the region's capital structure by the export of industrial savings."⁷ More specifically, a forthcoming study of basing point pricing and the South concludes that because of "foreign" ownership the southern steel industry has not expanded as rapidly as was justified by regional economic advantages.⁸

Yet in this respect the South seems to have a split personality. On the one level, the preference for local rather than branch plants persists as a strong and widespread faith in the region. On another level, virtually all of the region's promotional efforts are directed toward securing branch plants of non-Southern firms and such firms as locate in the South are invariably impressed with the warmth and enthusiasm with which they are met.

Although the *precise* extent of the Southeast's recent dependence upon other than local entrepreneurship cannot be easily determined, it is clearly apparent that a large share of the new factory employment in the Southeast has resulted from expansions in the region by non-Southern firms. In the traditional fields of textiles, lumber products, apparel, shoes and food processing, much of the expansion has been by "locally-owned" firms. But in other important fields such as chemicals, primary metals, transportation equipment, rubber products, pulp and paper, machinery, etc., the pattern has been mainly one of branch plants.

In New England, on the other hand, a recent study indicates that a high proportion of new plant expansion has been regionally inspired and regionally owned. "In a typical case," this study points out, "a man, frequently of New England origin, gains experience over a period of years in a single company or industry.

⁷ National Resources Planning Board, *Regional Planning. Part XI—The Southeast* (Washington, 1942), p. 134.

⁸ Study by George W. Stocking, Vanderbilt University.

During a succession of positions he acquires a knowledge of production, administration, marketing, and finance. Upon deciding to go into business himself, he uses his personal contacts to secure a minimum supply of scarce materials and to secure at least one good customer who will carry the firm over its first production difficulties. Several of the firms initiated by individuals were based on that individual's place in the field of research. A new product or a new process might be the basis for his desire to break away from a position as research director to establish his own firm."⁹

The contrast between New England and the South is not intended to suggest that New Englanders are more enterprising than are Southerners. But it does suggest that the industrial maturity and the long industrial history of New England has provided relatively more people in that area with industrial know-how, essential experience and the confidence necessary to start a new business. It takes more than capital and ambition to enter successfully in well established manufacturing fields.

An established industrial area is a breeding ground for new entrepreneurs. A predominantly agricultural area cannot expect to provide the necessary training (and certainly not a local surplus of capital in a low income area) to breed its own entrepreneurs for industrial expansion. As the South becomes more industrialized, it may train more potential entrepreneurs. But with the passage of time, new entry into many fields may become increasingly difficult. Technological developments are constantly increasing the capital requirements for establishing an efficient size firm. The operation of businesses in a managerial sense also continues to become more complex.

The problem of advancing technology and increasing investment requirements as a bar to new industries was emphasized in a recent U. S. Department of Commerce study which concluded:¹⁰

Due to the high investment requirements, newly organized concerns do not generally enter in such fields as primary metals, rubber, oil refining, tobacco, heavy machinery and transportation equipment. While new firms are found in every broad manufacturing group (over the 1946-48 period) they are largely concentrated in the lumber and apparel fields, and to a lesser extent, in small metal-working and printing shops.

Plant Location Factors

The greatly increased national demands of the World War II and postwar period were the major stimuli for the many recent business decisions to expand manufacturing capacity. The geographical distribution of this new capacity, however, is explained by the location advantages afforded by different regions for the specific types of industries being expanded.

As a general rule, the plant location decision of a businessman is made in two

⁹ George H. Ellis, "Why New Manufacturing Establishments Located in New England: August 1945 to June 1948," *Monthly Review*, Federal Reserve Bank of Boston, April 1949, p. 2.

¹⁰ Lawrence Bridge and Lois E. Holmes, "Sales and Investment Trends of New Manufacturing Firms," *Survey of Current Business*, June 1950.

steps.¹¹ First, he selects a general area such as the Southeast. And then he looks for a specific community and site within the general area. It is impossible to consider and survey all the location possibilities. The businessman, therefore, generally tries to limit his search by concentrating on the general area which best satisfies the major location advantage for his type of plant. This major advantage generally comes from being close to the market, to a source of materials or to a supply of labor. The production process and the economics of a specific industry determine which of the major location factors—markets, materials or labor—is of predominant importance.

The major location factors of markets, materials and labor are the main issues in regional competition for new industry. A number of secondary factors are involved in the competition between cities within a general area. Included in such secondary factors are taxes, community services, availability of buildings and sites, the general attractiveness of a city, and attitudes of community leaders toward new industry.

Over the war period 1939–47, somewhat more than a third of the increased manufacturing employment in the Southeast was due to the attraction of available raw materials in the region. Another third of the expansion was attracted by the region's rapidly growing markets. And somewhat less than a third was based on the labor supply and cost advantages of the Southeast.¹²

Material oriented industries were attracted to the region by forest resources, minerals, industrial water, water sites for shipbuilding, electric power, and agricultural raw materials. The forest resources alone accounted for one out of four new factory jobs established in the Southeast over the 1939–47 period. Sawmills and planing mills, wood furniture, and paper and pulp manufacturing were the types of expansion supported by the forest resources.

The types of industries attracted by growing producer and consumer markets in the region were well dispersed among the broad industry groups. Expansions in food and kindred products such as prepared animal feed, manufactured ice, bakery goods, and confectionery products were of considerable importance. Other industries that expanded substantially to supply the regional market were fabricated metals, machinery, concrete products, cement, printing and publishing, electrical machinery, rubber products, upholstered furniture and bedding, transportation equipment, paper products, and chemicals.

The attraction of labor, which ranked behind materials and markets in overall

¹¹ For a more complete discussion of business practices in plant location, see Chapter 3 of *Why Industry Moves South*, by Glenn E. McLaughlin and Stefan H. Robock, National Planning Association, Washington, D. C., 1949, a study based upon interviews with officials of a large number of firms that located new plants in the South in the postwar period.

¹² These conclusions are based upon an analysis by the author of the four-digit Census of Manufactures data for seven states of the Southeast—Alabama, Georgia, Kentucky, Mississippi, North Carolina, Tennessee and Virginia. The Census of Manufactures does not lend itself to a precise classification of industries on the basis of location factors, and certain industries cannot be neatly classified into one or the other of the three major groups. However, the questionable items involved only 3 per cent of the total 1939–1947 increase in production workers.

importance, was highly concentrated in the textile, apparel and footwear industries, although certain types of machinery operations were also involved.

The industry composition of the postwar expansion differed somewhat from that of the 1939-47 period, as discussed above, and there was a shift in the importance of location factors accompanying this change. Of the total new plants surveyed in the Committee of the South study, *Why Industry Moves South*,¹³ 45 per cent of the plants were primarily oriented to their market. Material and labor oriented plants totaled 30 per cent and 25 per cent, respectively. This study, however, only covered new plants and did not include expansions of existing plants in the Southeast.

The leading importance of the southern market in the postwar period is also confirmed by a National Industrial Conference Board study covering the 1946-51 period.¹⁴ Markets have had the greatest influence on plants locating in the South, according to the cooperating companies covered in this study. "The rising standard of living of the region has opened up markets which formerly were non-existent. Many of the companies moving into the South are newcomers, and are entering the market without the benefit of existing facilities in the area."¹⁵

Other conclusions of the National Industrial Conference Board study were that "raw materials and labor supply were of almost equal importance as considerations when locating plants in the South. The availability of untapped sources of labor was particularly important in the east south central and west south central portions of the region, where states such as Arkansas and Kentucky were able to provide large supplies of adaptable labor. Raw materials were most in evidence as a consideration in the southern tier of states where the abundance of oil, lumber and chemicals has attracted large numbers of chemical, paper and petroleum concerns."¹⁶

Relocation v. New Capacity

Recent industrial growth in the Southeast resulted almost completely from new additions to industry capacity rather than from northern plants pulling up stakes and moving South. As was pointed out in the Committee of the South study, "relocations have made a relatively minor contribution to the postwar wave of industrialization in the South."¹⁷

The question of relocations is frequently raised as a political issue in connection with the industrialization in the Tennessee Valley. Yet studies which go back to 1940 reveal only eight cases of plants relocating in the Valley region out of a total increase of several thousand new establishments over this period. These eight relocations involved less than 600 employees and none were from New England.

¹³ *Op. cit.*, p. 26.

¹⁴ Malcom C. Neuhoff, *Trends in Industrial Location*, Studies in Business Policy, No. 59, National Industrial Conference Board, New York, 1952, p. 31.

¹⁵ *Ibid.*, p. 31.

¹⁶ *Ibid.*, p. 13.

¹⁷ *Why Industry Moves South*, *op. cit.*, p. 19.

Even in the case of the textile industry, where a regional shift to the Southeast has been under way for at least 50 years, recent growth in the region has been due mainly to the expansion of more efficient operations in the South and a closing down by different firms of less efficient operations in other regions. Despite the impression given by the unusual publicity accorded those rare cases of moving a plant lock-stock-and-barrel from one region to another, only an insignificant amount of the industrial expansion in the Southeast has been due to other than a net increase in industry capacity.

The general conclusion that "Outright relocation of establishments is relatively uncommon" was reached in 1942 in a major study by the National Resources Planning Board.¹⁸ All available evidence since that time further supports this statement. Yet, flailing away at the invisible straw man of relocation to the South continues to be a favorite pastime, as evidenced by a recent article in the *Harvard Business Review*.¹⁹

III. THE ROLE OF INDUSTRIALIZATION IN SOUTHERN ECONOMIC DEVELOPMENT

Industrialization assumes a special importance in achieving regional economic progress. Increased factory employment has been, and will continue to be, the most effective non-government means of increasing the general level of welfare in the region. The rapid increase in the Southeast's per capita income, from half to two-thirds of the national average over the period 1929-52, has been largely due to the region's shift from a predominantly agricultural area to an important and expanding industrial region.

The Regional Shift to Manufacturing

From 1929 to 1952 factory jobs in the Southeast expanded by 74 per cent whereas farm employment *declined* by 43 per cent. In 1929, agricultural employment in the region was three times as important as manufacturing. By 1952, however, manufacturing and farm employment were about equal in importance—each accounting for slightly less than one-fourth of total regional employment.

As a source of regional income the changing importance of agriculture and manufacturing in the Southeast is also very striking. From 1929 to 1952 manufacturing income increased by 398 per cent as compared to only 140 per cent for agriculture. In 1929, agriculture supplied 19 per cent of total regional income as compared to 15 per cent from manufacturing. By 1952, the positions were reversed—manufacturing accounted for 18 per cent and agriculture only 11 per cent of total income in the Southeast.

Manufacturing and Increased Regional Income

Although a key element, manufacturing has not been the largest direct contributor to the increased level of total income in the region—from \$8.7 billion

¹⁸ National Resources Planning Board, *Industrial Location and National Resources* (Washington, 1942), p. 328.

¹⁹ John Tomb, "Should Industry Move South?," *Harvard Business Review*, September-October 1953.

in 1929 to \$36.2 billion in 1952. Trade and service activities,²⁰ developed in large part in response to the advancing industrialization, accounted for one-third of the increase in level of total income. Next in importance was the gain in income from "government and other" sources,²¹ accounting for almost one-quarter of the gain. Manufacturing, although a strategic factor in the total income gain ranked third in numerical importance, accounting for almost one-fifth of the increase. Agriculture, property income, contract construction and mining jointly accounted for almost another quarter of the total.

The expansion of trade and service activities in the region largely reflects the increased income and employment generated by other more basic types of expansion. The spurt of government income payments reflects profound changes that have occurred throughout the Nation in the role of government. State and local government payrolls have kept pace with the general rise in income, responding to an increased demand for education, highways, and other community services. The vast expansion of government payments over and above the general rise in income is mainly due to the expanded activities of the Federal Government. Federal transfer payments for social security programs, veterans' benefits, etc., in the Nation have increased 15 times over their level a generation ago. Federal payrolls have increased tenfold over the last two decades, largely due to national defense activities.

Among the "prime" non-government sources of income, manufacturing gains were of leading importance. Industrial expansion was more than twice as important as agricultural gains and twelve times as important as mining in accounting for the rise in regional income. In terms of future possibilities for continued increases in regional income, the opportunities in manufacturing appear to be even greater relative to farming and mining than was true over the last two decades.

An important factor in the expansion of all segments of the regional economy has been an increased demand for regionally produced goods and services. A substantial share of the expansion in both the materials and labor oriented sectors of the region's manufacturing industries has been in response to growth of demand outside of the region. Part of the increased employment in government reflects the increased contribution of the region to the Nation's security program. The tourist and resort industries which serve national as well as regional markets have been a factor in the expansion of the trade and service industries. A major share of the region's agricultural output is produced for a national and to some extent a world market. And in an economy where movement of population has been an important factor in the pattern of regional growth, expansion of these "export industries" must be viewed as an alternative to even greater outmigration.²²

²⁰ "Trade and Service Income" consists of income from wholesale and retail trade, service, self-employed and own-account workers, finance, transportation, communication and public utilities.

²¹ "Government and Other Income" consists of federal civilian and military, state and local school and non-school payrolls, military, veterans' and social security benefits.

²² For an excellent discussion of the interdependence of the regional and national econo-

CHART III. LABOR FORCE CHANGES IN THE SOUTHEAST

Decade 1940-1950

SOURCES OF WORKERS FOR NEW JOBS		PATTERN OF EMPLOYMENT	
814,000	= 3,651,000 =	2,500,000	
Workers Leaving Agriculture ^a		Increase in Nonfarm Jobs ^a	
2,070,000		246,000	
New Entrants to Labor Market ^b		Net Loss to Armed Forces ^a	
767,000		905,000	
Unemployed Put to Work ^a		Net Outmigration of Workers	

^a Compiled from data in *Census of Population, 1940 and 1950*.^b Estimated on the basis of the natural increase in population and the 1950 rate of participation of total population in the labor force (37 per cent).*The Regional Deficit in Non-Farm Jobs*

This emphasis on industrialization as the key to regional economic progress is also supported by employment and wage characteristics of the region. Farming in the region no longer affords opportunities for increased employment. In fact, farm experts are in general agreement that despite recent large-scale declines in farm employment a large share of the workers now in southern agriculture are under-employed and could be more productive by shifting to non-farm employment.²³ Furthermore, the average earnings of factory workers continue to be substantially higher than those of farm workers; therefore, an increase in the proportion of the labor force in the industrial fields will greatly increase regional income.

The difference between manufacturing and farm earnings per worker can be illustrated by a comparison for the recent year 1951. In 1951, the average annual wage for manufacturing workers was 60 per cent higher than the average farm income per agricultural worker, \$2700 as compared to \$1740. This gap between factory and farm earnings persisted in the Southeast despite an increase of 338 per cent from 1929-51 in average income per farm worker,²⁴ which reflects both the very sharp decrease in total farm employment and a modest increase in total farm income.

The Southeast's problem of providing jobs in the region for available labor force is illustrated by Chart III based on 1940-50 Census of Population data.

mies, and the contribution of the several major income components to regional income gains from 1929 to 1952, see Werner Hochwald, "District Income Through a Generation of Change," *Monthly Review*, Federal Reserve Bank of St. Louis, October 1953.

²³ See, for example, Arthur Moore, *Underemployment in Agriculture*, (Washington: National Planning Association, 1952), Planning Pamphlet No. 77.

²⁴ The data on income per farm worker are based upon unpublished research by Vernon Ruttan of the TVA Economics Staff. It is generally agreed that farm income estimates understate the real income of farm workers. However, farm income estimates include the return on a farmer's capital investment as well as a return for his labor.

Over this recent decade, farm jobs in the Southeast declined by 814,000, entrants to the labor force totaled about 2,070,000, and 727,000 unemployed as of 1940 were put to work. To employ all these available workers *in the region* would have required a total increase of 3,651,000 non-farm jobs. However, this still would not have meant full employment for the regional labor force, because underemployment in agriculture still existed in 1950.

As against the more than 3.6 million workers available for non-farm employment, non-farm jobs increased by about 2.5 million in the Southeast over the 1940-50 decade. Thus, after a net loss to the armed forces of 246,000 persons, there was a regional deficit of about 900,000 non-farm jobs.

This job deficit in the Southeast, which occurred even in the 1940-50 period of unprecedented expansion, resulted in extensive outmigration to other parts of the Nation where jobs were more readily available. The outmigration was heavier for Negro than for white workers. In southern agriculture, Negro employment declined more rapidly than white employment. In the expanding fields of manufacturing, wholesale and retail trade and construction, Negro employment increased less than did white employment.²⁵

The outmigration of total population over the last decade was of course much larger than the loss of labor force. From 1940-50, the natural increase in population (excess of births over deaths) was 20 per cent of the Southeast's 1940 population,²⁶ or about 5.6 million persons. Over the same period, net outmigration from the Southeast was 2.1 million, or the equivalent of 37 per cent of the natural increase. This outmigration reflects in large part a greater relative economic opportunity in other regions than in the Southeast over the recent period of large-scale national expansion. During the depression 1930's, however, when job opportunities were not available in other regions, migration out of the Southeast was not large. Instead, the surplus of workers resulted in greater unemployment and underemployment in the region.

IV. FACTORS UNDERLYING RECENT TRENDS AND FUTURE PROSPECTS FOR THE REGION

In this paper it will not be possible to attempt a comprehensive explanation of recent economic trends in the Southeast. However, a consideration of several major factors that recently contributed to industrial expansion in the Southeast may provide some significant clues to future prospects for the region.

The Unprecedented Expansion of Our National Economy

Probably the most important factor underlying recent economic gains of the Southeast has been the unprecedented expansion of our national economy. Over the last decade total national production almost doubled. The increased demand for goods in the Nation as a whole created a favorable environment for

²⁵ See Stefan H. Robock, "The Negro in the Industrial Development of the South," *Phylon Review of Race and Culture*, Atlanta University, Third Quarter 1953, pp. 319-326.

²⁶ Wardwell, *op. cit.*, p. 109.

the expansion of areas like the Southeast, where many of the resources were under-developed.

During the depression 1930's when a large share of the industrial capacity in the Nation remained idle it was impossible for any area to make progress in industrialization except by enticing existing industry in other areas to relocate. But during the expansion and prosperity of the 1940's, when the need for production was ever increasing, all regions were able to advance economically. Prosperity and expansion for the Nation meant many new plant prospects for all areas, but depression or stagnation means little opportunity for economic expansion in any area.

Over the 1940-50 decade, the greatest stimulant to national expansion was the increased level of Federal defense expenditures. In the five-year prewar period from 1936 through 1940 the Federal Government spent an average of about \$8 billion per year. In the following five-year war period from 1941 through 1945 the average annual expenditures of our national government increased by eight-fold to a level of \$64 billion per year. After the end of World War II, from 1946 through 1950, expenditures of the Federal Government—still largely for defense or defense related purposes—stayed at a level of five times the pre-World War II period, or about \$40 billion a year. Since 1950, Federal expenditures again increased and by 1953 reached a level of more than \$70 billion.

A high level of accumulated consumer demand was another major stimulant for the recent large-scale expansion of our national economy. This was due to higher incomes and the accumulation of demand from both the war years when many consumer products were not available and the depression period when people did not have the money to satisfy their many needs.

Federal defense expenditures played a major role in the economic expansion of the Southeast. Direct Federal programs resulted in many new camps, ship-yards, military airfields, arsenals and other types of military operations being located in the South. The defense expenditures of the Federal Government were responsible for the expansion of the Atomic Energy operations at Oak Ridge, Tennessee; Aiken, South Carolina, and Paducah, Kentucky. Federal expenditures also influenced the expansion in the Southeast of privately operated production facilities, such as those producing metals, chemicals, and aircraft.

Regional Resource Development Programs

A second major factor in the recent economic progress of the South has been the resource development efforts of the Federal, state and local agencies in the region. Whereas the national expansion stimulated an increased demand for all types of products, resource development programs like those in the Tennessee Valley improved the regional capacity to produce the necessary goods. In the Tennessee Valley, for example, where industrialization proceeded at a more rapid rate than in the Southeast as a whole, an important contribution to economic expansion was made by the integrated resource development program undertaken cooperatively by the TVA and the state and local agencies of the region. Through this development program the people of the Valley have been assisted

in improving the resources and creating a more favorable physical, social and governmental environment for the expansion of industry and commerce.

Through providing an adequate supply of low-cost electric energy TVA has encouraged the growth of important electrochemical and electrometallurgical industries in the Valley. For example, the location of Oak Ridge atomic energy operations was largely due to the availability of power. The navigable channel of the Tennessee River now extending for over 600 miles from Knoxville to Paducah, Kentucky, created new opportunities for many industries which require water transportation facilities. The improved and controlled water resources of the area have been increasingly important to industrial development because of the crucial need for industrial water supplies in many paper, chemical and other industries. Forest resource development increased the supply of raw materials for paper, furniture and other forest product industries. Agricultural development increased the output of agricultural raw materials for dairy products, vegetable canning and other types of processing industries. Increased planning assistance encouraged the development of strong, well staffed state-local planning agencies and the improvement of communities.

These and many other resource development activities have strengthened the productive capacity of the region and supported an increased level of activity. Such programs have helped both to increase the output of the Nation and improve the economic welfare of the people of the region.

Regional Promotional Efforts

A third major factor explaining the recent economic gains of the region has been the initiative, the imagination and the promotional efforts of local groups and individuals in the South. An expanding national economy coupled with the resource development activities of regional agencies improved the situation for the growth of private industry. But the important steps of actually starting new industries and of influencing the location decisions of businessmen have been the responsibility and accomplishment of individuals of the region.

Future Prospects

Efforts to achieve still higher income levels and to expand employment opportunities in the Southeast will be affected by a large number of factors operating both inside and outside the region.

Of first importance is the present uncertainty about continued rapid expansion in our national economy. In a national environment of slow growth, stagnation or recession, the Southeast will find it extremely difficult, if not impossible, to maintain the rapid rate of industrial gain achieved over the recent past. At the same time, the pressure for additional non-farm jobs in the Southeast will continue without interruption.

Anticipated growth in population during the 1950-60 decade will alone account for an increase in the labor force of approximately 2.3 million in the Southeast. The movement out of agriculture can probably make another 600,000 workers available for non-farm jobs. Thus, almost 3 million new non-farm jobs

will be required by 1960 to employ the new entrants to the labor force and to reduce further the under-employment in regional agriculture. Even with out-migration at the high rates of the previous decade, new non-farm job opportunities will be required for about 2 million workers.

With more available workers and more population in the region, large numbers of new jobs will be needed just to *maintain* the present level of per capita income. In order to *increase* the level of income in the region, an even greater expansion in jobs will be required. As the Red Queen explains to Alice in *Through the Looking Glass*, "You see it takes all the running you can do to keep in the same place. If you want to get someplace else, you must run at least twice as fast as that."

Another problem for the future arises out of the past high dependence of the region on the expansion of government defense facilities. The outlook for continued expansion of such defense facilities in this region is quite uncertain. At best we can expect only a small fraction of the expansion of defense facilities in the region over the present decade that we experienced over the 1940-50 period. In the long pull the Southeast must look more to the expansion of private enterprise along lines not governed primarily by defense requirements.

A third major problem is that the supply of certain important regional resources, which greatly stimulated past industrial gains, has become more limited. During the last decade, for example, the plentiful supply of low-cost electric energy that was available in the region encouraged the expansion of important electro-process industries in the region. The relatively tight power supply situation that now exists emphasizes the importance of sustained efforts throughout the Southeast to increase the availability of electricity in advance of the requirements of industry.

Some other resources in the region have also become less important in attracting new industry. Minerals such as phosphate rock have become more fully utilized than during the last decade.

There are, however, many other resources in the area that can be effective in supporting economic expansion. The labor force of this area can be made one of the region's valuable assets. Programs to improve the training and skills of labor in the area can make manpower an important regional attraction for industry. The output from forest resources in the Southeast can be tripled. The water resources in this area, and water has become an extraordinarily important factor for many types of heavy industry, are still extremely attractive as a factor for industrial development. Many other factors associated with water transportation on the navigable streams, with the development of recreational facilities, and with improvements of communities in the Southeast can also be given greater emphasis through proper developmental efforts.

A fourth problem is that some of the types of private industrial expansion that have been very important in the past for the Southeast are not as promising for the future. The textile industry, for example, which has been responsible for a great deal of the recent regional expansion has a much less promising "growth" potential for the future.

This means that in order to increase the number of factory jobs in this area,

development efforts must be directed toward such rapidly growing industries as the machinery, electrical equipment and metal fabricating industries which have not been traditionally important in the Southeast. The machinery and electrical machinery industries, although bulking modestly in the structure of manufacturing industries in the past, are likely to employ increased numbers of persons in the future. In fact, since the end of World War II more than a score of plants of the principal electrical equipment manufacturers have been located in the region in response to favorable market and labor conditions. Expansion of employment can also be anticipated in the paper and pulp and food processing industries related to the forest and land resource base. In certain portions of the region continued growth of chemical production and employment may also be expected. And a large scale industrial dispersion program for defense could mean many additional types of manufacturing expansion in the Southeast.

These are some of the important problems and opportunities which the region faces. Recent economic trends in the Southeast have meant increased income for the people of the region and have changed very substantially the nature of economic and social life in the region. Further economic progress for the Southeast depends largely upon the continuation of rapid industrialization trends of the past.